Work Ord Wednesday, Jul			· /	*10:	3892*						Page 1	
Item ID:	D3121-241		£	Accept	*N900	040	100)* s	etup Star	*N	S1*	
Revision ID:	-								Stop	* * N I	00*	
Item Name:	Bearing Assen	nbly								*N	57"	
Start Date:	7/3/2013	Start Qty: 40.00	*4(n .*	Cust Item 1	Cust Item ID:						
Required Date	: 7/15/2013	Req'd Qty: 40.00	*4	N *	Customer:							
Reference:												
Approvals:	Process Pla	in: CZ	Date: /3/0	7/03Tooling:	D	ate:		R	tun Star	"NRT"		
;	QC:		Date:	SPC (Y/N):	Date:				Stop	*N	R2*	k \
Sequence ID/ Work Center I	Operation D Description			Set Up/ Run Hours	Tool ID	Tool#	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp	
Draw Nbr	Rev	ision Nbr										
D3121	Rev	E										
100				0.00					/			_
100		Hardinge CNC LATHE	SMAJLL					40	Ø			
Hardinge		Memo		0.00	13-7-	-10						
Hardinge CNC Lat	he Small	1-Turn D31	21-25 Cap as per Fol	lio FA3872-Deburr		•						
110		QC2- Inspect parts off n	nachine FAI/FAIB	0.00								
*11 0 *				7	13-7-10	\sim		40	de			
QC		Memo		0.00	, , , , , , , ,	<u>ر</u>			7			
Quality Control												
120		QC8- Inspect parts - sec	ond check	0.00	_			41				
120		Memo		0.00	S 13/07/1	,		表的	_B			
Quality Control				₽-								

	Vork Order ID 103892 Yednesday, July 03, 2013 12:37:24 PM			*103892*									
Item ID: Revision ID: Item Name:	D3121-241 Bearing Asse	mbly		Accept	*N90004	N1NN*	Setup	Start Stop	*NS1* *NS2*				
Start Date: Required Date: Reference:	7/3/2013 7/15/2013	Start Qty: 40.00 Req'd Qty: 40.00	*40* *40*		Cust Item ID: Customer:								
Approvals:		an:	Date:	Tooling: SPC (Y/N):	Date:		Run	Start Stop	*NR1* *NR2*				
Sequence ID/ Work Center II 130 *120* Small Fab Small Fab	D	Operation Description Small Fab Memo 1-Press D312	11-23 Bearing into D3121-	Set Up/ Run Hours 0.00 0.00 25 Cap as per Dwg D312	Tool ID Tool	# Plan Ac Code Qt	y Q		Reject Insp. Number Stamp				
140 *140* QC Quality Control		QC5- Inspect part comple Memo	teness to step on W/O	0.00 SH 0.00 13-7)D	4	<u> </u>						
150 *150* Packaging	·	Identify as per dwg & Sto	ck Location:	0.00		4	lox_		13-7-12				

Work Orde Wednesday, July			*103892*									Page	3
Item ID: Revision ID: Item Name:	D3121-241 Bearing Asser	nbly		Accept	*N900	*N900040100*			Setup	Start Stop	1.71	S1* S2*	
Start Date: Required Date: Reference:	7/3/2013 7/15/2013	Start Qty: 40.00 Req'd Qty: 40.00	*40* *40*		Cust Item ID: Customer:								
Approvals: Process Plan:QC:		ań:	Date:	Tooling: SPC (Y/N):		ite:			Run	Start Stop	1/1	R1* R2*	
Sequence ID/ Work Center II)	Operation Description		Set Up/ Run Hours	Tool ID	Tool#	Plan Code	Accep	t Re Qt	•	Reject Number	Insp. Stamp	
160 *160* QC		QC21- Final Inspection -	Work Order Release	0.00					_ 1	3/1	16	*	-

Memo

Quality Control

Picklist Print

Wednesday, July 03, 2013 12:37:23 PM

Work Order ID:

103892

Parent Item:

D3121-241

Parent Item Name:

Bearing Assembly

Start Date: 7/3/2013

Required Date: 7/15/2013

Page 1

Start Qty: 40.00

Required Qty: 40.00

Comments:

IPP Rev:A04.02.18New issueKJ/DS

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Status Issued
MDELRINR1.000 Delrin Round Bar 1"		Purchased	No			100	f	31.4100	0.052	2.08	27	13-7-
				Location		Loc Qty	<u>Lo</u>	c Code				
				MAT018		31.41				<i>\</i> \	_	/
				125	251	31.41			_2	<u>-0</u> f4		/ / /
3121-23		Manufactured	No			130	Each	66.0000	1	40		(12/67/11
Bearing											///	1// 107/11
				Location		Loc Qty	<u>Lo</u>	oc Code				
				ST		12			·	<u>,</u>		
				102	140	12				<u> </u>		
				ST235		54				· ~		
				102	530	40			_ 4	0_		
				667	34	10						
				750		2						
				990	00	2						

DART AEROSPACE LTD	Work Order:	1038R
Description: Cap	Part Number:	D3121-25
Inspection Dwg: D3121 Rev: E		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

X First Article Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
0.315	+/-0.010	317			31-5	UVL
Ø1.000	+/-0.010	1.001	/			
Ø0.838	+/-0.002	.838	/			
R0.063	+/-0.010	R.063	. /			
R0.010	+/-0.010	ROOS				
0.230	+/-0.001	-270		ł		
Ø0.865	+/-0.001	-76E				/
			,			·

Measured by: Add Prototype Approval: N/A

Date: 13/07/// Date: N/A

Rev	Date	Change	Revised by	Approved
Α	04.04.20	New Issue (P/O D3121-241)	KJ/RF	
В	06.06.09	Ø1.000 diameter was Ø1.024	KJ/JLM , ,	
С	08.01.16	Dwg Rev. updated	KJ/EC/DD	<u>X</u>



	DESIG	4	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA
	CHECK	(ED_	APPROVED	DRAWING NO. REV. E
ı		#		D3121 SHEET 1 OF 10
	DATE			TITLE SCALE
	07.1	1.07		BRACKET ASSEMBLY 1:2
	Α		02.04.15	NEW ISSUE
	В		03.01.16	ADD RIDGES; ADD MAT'L PROP; FIX P/N ADD -141/-143/-144/-145/-146
	С		04.02.17	ADD CLEARANCE; USE -241 BEARING
	D		06.05.17	D3121-25 CAP WAS 1.024, NOW 1.000
	Ε		07.11.07	ADD TOLERANCE TO 0.032 (DETAIL B)

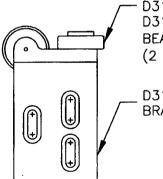


- D3121 - 2	1 BOLT (1)	
D3121-2	41	
BEARING	ASSEMBLY (1))

D3121-11 BRACKET

D3121-041 BRACKET ASSEMBLY

(REPLACES PREMIER P/N B30-23000-33)



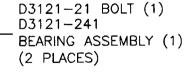
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(‡)

D3121-21 BOLT (1) D3121-241 BEARING ASSEMBLY (1) (2 PLACES)

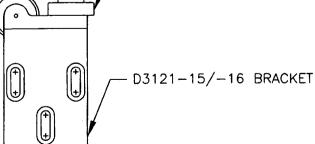
D3121-13/-14 BRACKET D3121-043 (SHOWN) / D3121-044 (OPPOSITE) BRACKET ASSEMBLY

(REPLACES PREMIER P/N B30-23000-37/-38)



D3121-045 (SHOWN) / D3121-046 (OPPOSITE) BRACKET ASSEMBLY

(REPLACES PREMIER P/N B30-23000-35/-36)





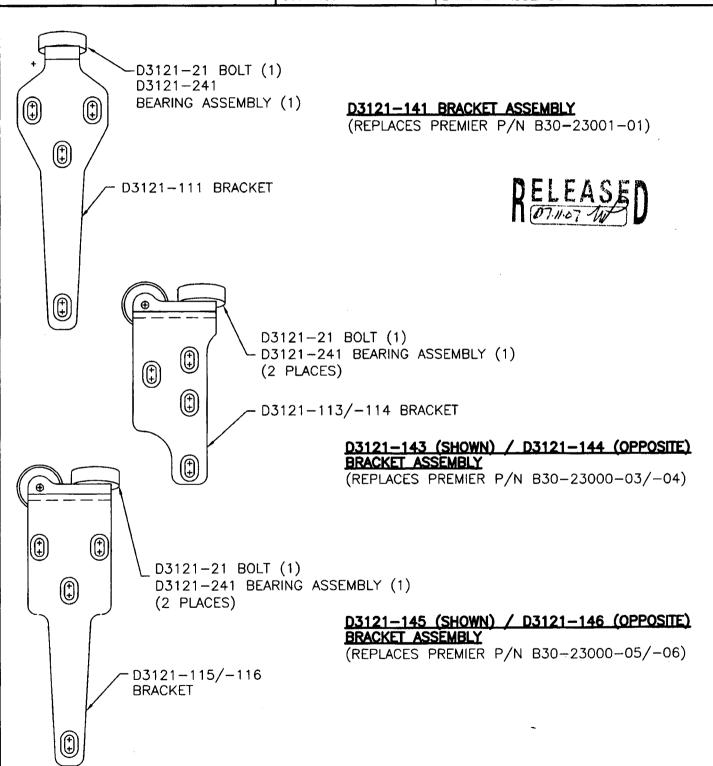
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DQA:			Date:			WORK ORDER NON-CONFORMANCE / UPDATE										
QA Closed:			Date:			WORK ORDER NON-	-CC	ONFO	RMANCE / UI		\\/oı	rk Order up	udate only	_	AEROSPACE	
QA Closeu.			Date.							<u></u>						
Work Orde	er:					DISPOSITION		AGAINST DEPARTMENT/PROCESS								
	•					Rework			Skid-tube			Water Jet	\neg	Engineering		
Part N	۱o.					Scrap		Skid-tube Crosstube Machining Small Fab				Prod. Eng. Coor.			Quality	
	•					Use-as-is		Thermoforming Finis				Rec/Store/Packaging			Other	
NCR No.				Suspected Unapproved		Large Fab Composite					Supplier					
Root De				Desc	lription of work order update		Initial	Act	ion	Sign &						
Cause		Date	Step	Qty		or non-conformance	l	ief Eng	1	ription		Date	Verification	1	QC Inspector	
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Process																
Supplier																
Training																
Transport				į										1		
Unapproved		L	<u>l</u>				<u> </u>		<u></u>							
1 1		<u> </u>					FA	ULT CA	TEGORY				<u></u>			
Landi		7				General Bend		ارمانه/ر)rogram	ſ	П,	Outside Dim	onsions [$\overline{}$	Pressure/Forced	
	\vdash	Bending Centre No	at Cancar	stric	-	BOM/Route	-	Grain	Program		_	Outside Dimi Over/Under		-	Set-up	
	\vdash		or concer	HITIC	-	Broken/Damage/Defect	\vdash	Hardwa	aro.	ŀ	-	Part Incorrec	1	_	Temperature/Cure	
	-	Cracks Crimp/Kink/Ripple/Wave		-	Burrs	\vdash	4	ire ion Incomplete/Ur	agualified	\vdash	Part Incomed Part Lost/Mi		-	Weld		
	\vdash	Cuffs	ud mbbie	, wave		Contamination	\vdash	1 `	tions incomplete/(i	· ·		Part Lost/Will	~ I	—	Wrong Stock Pulled	
		Crushing			-	Countersink	\vdash	-	gned/off center	Jiicicui	$\overline{}$	Positioned W			TTTOING STOCK I GIRCU	
		Heat Trea	it			Cut Too Short		Mislabe			-	Power Loss/			Other	
		Inspection		Tube		Drawing		Misrea		į	'لـــا			LI	<u> </u>	
		Marks/Ch	•			Drill Holes	\vdash	Off-set			-					
		Turning S				Finish	\vdash	-!	Calibration		-					
	Wave/Twist in Tube			10		Fit/Function		4	Saguanca		-					

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DESIGN	DRAWN BY	DART AEROSP HAWKESBURY, ONTARI	
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#	-	D3121	SHEET 2 OF 10
DATE		TITLE	SCALE
07.11.07		BRACKET ASSEMBLY	1:2



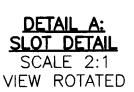
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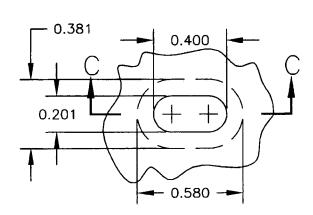
DQA:	·	Date:			WORK ORDER NON-CONFORMANCE / UPDATE										
QA Closed:		Date:			WORK ORDER NON-	-CC	ONFO	RMANCE / UPDATE	W	ork Order up	odate only		AEROSPACE		
Work Orde	er:				DISPOSITION			AGAINS	/PROCESS						
Part N					Rework Scrap		Skid-tube Crosstube Machining Small Fab			Water Jet Prod. Eng. Coor.			ngineering Quality		
NCR N	lo				Use-as-is Suspected Unapproved		Therr	noforming Finishing Large Fab Composite	Finishing Rec/Store/Packaging Supplier				Other		
Root				Desci	ription of work order update	ı	nitial	Action		Sign &			·		
Cause	Date	Date Step Qty			or non-conformance	Ch	ief Eng	Description		Date	Verification		QC Inspector		
Design			1												
Doc/Data			<u> </u>												
Equip/Tooling												1			
Handling/Pre															
Material		-			:	:					-				
Operator											- I				
Offset/Setup															
Process															
Supplier						1									
Training															
Transport															
Unapproved															
						FAI	ULT CA	TEGORY							
Landir	ng Gear				General					-	_				
1	Bending			<u> </u>	Bend		1	Program		Outside Dim	ensions	Pre	essure/Forced		
	Centre N	ot Concei	ntric	<u> </u>	BOM/Route		Grain			Over/Under	tolerance	Set	t-up		
	Cracks			<u> </u>	Broken/Damage/Defect	L_	Hardwa	are		Part Incorred	ct	Ter	mperature/Cure		
	Crimp/Ki	nk/Ripple	e/Wave		Burrs		Inspect	ion Incomplete/Unqualified		Part Lost/Mi	ssing	We	eld		
	Cuffs				Contamination		Instruc	tions Incomplete/Unclear	L	Part Moved		Wr	ong Stock Pulled		
	Crushing				Countersink		Misali	gned/off center		Positioned V	Vrong				
	Heat Tre	at			Cut Too Short		Mislabe	eled	L	Power Loss/	Surge	Otl	her		
	Inspectio	n Strip in	Tube		Drawing		Misrea	d							
	Marks/Cl	hatter			Drill Holes		Off-set								
	Turning S	Sequence	•		Finish		Out of	Calibration							
ſ	Wave/Twist in Tube				Fit/Function		Out of	Sequence					<u> </u>		

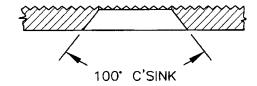
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4	-#	D3121	SHEET 3 OF 10
DATE		TITLE	SCALE
07.11.07		BRACKET ASSEMBLY	1:1



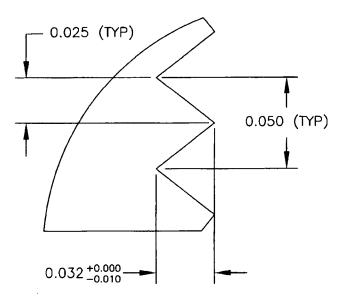




SECTION C-C



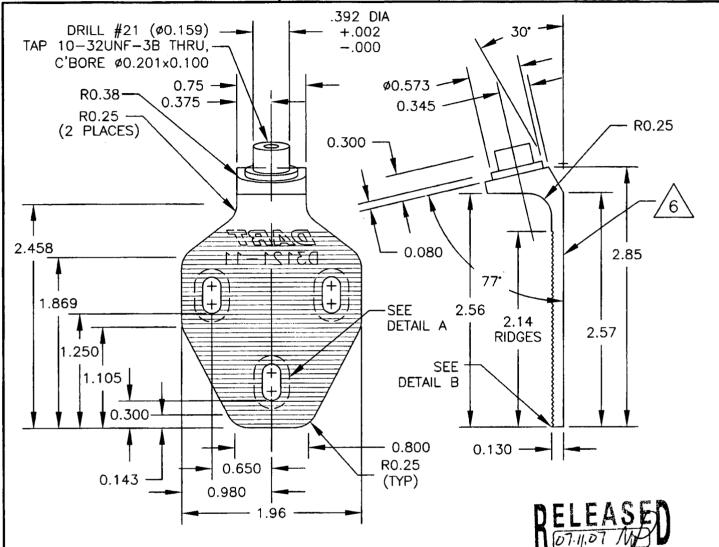
DETAIL B: RIDGE DETAIL PARTIAL SECTION SCALE 1:20



DQA:			Date: _			- wark apper was conserved the con-									
QA Closed:			Date:			WORK ORDER NON-	-C(ONFO	RMANCE / U		ork Order up	odate only	AEROSPACE		
Manle Onda						DISPOSITION					EPARTMENT				
Work Orde	er: _			-			.				¬		, - -		
Part N	do.					Rework			Skid-tube	Crosstube	-	Water Jet	Engineering		
rditiv	v O			····		Scrap		Machining Small Fal				d. Eng. Coor.	Quality		
NCR No.				Use-as-is Suspected Unapproved		Thermoforming Finishing Large Fab Composite			_ Rec/stor	e/Packaging Supplier	Other				
Root		_		_	Desc	ription of work order update	1	Initial	1	tion	Sign &				
Cause		Date	Step	Qty		or non-conformance	Ch	ief Eng	Desc	ription	Date	Verification	QC Inspector		
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							FA	ULT CA	regory						
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		ending			<u> </u>	Bend		Folio/F	Program	_	Outside Dim	ensions	Pressure/Forced		
	Щ	entre No	t Concen	itric		BOM/Route	匚	Grain			Over/Under	tolerance	Set-up		
	\square^{c}	racks			<u> </u>	Broken/Damage/Defect		Hardwa	ire	<u> </u>	Part Incorred	ct	Temperature/Cure		
	\square c	rimp/Kir	ık/Ripple,	/Wave		Burrs	L	Inspect	ion Incomplete/U	Inqualified	Part Lost/Mi	ssing	Weld		
		uffs				Contamination		Instruct	ions Incomplete/	'Unclear	Part Moved		Wrong Stock Pulled		
		Crushing				Countersink	L	Misalig	ned/off center		Positioned V	Vrong	·		
	Ш⊦	leat Trea	t		<u> </u>	Cut Too Short		Mislabe	eled		Power Loss/	Surge	Other		
	Inspection Strip in Tube			Drawing		Misread	t				·				
	Ц١	/larks/Ch	atter			Drill Holes	L	Off-set			<u> </u>				
	Turning Sequence				Finish		Out of 0	Calibration							
	Wave/Twist in Tube			e		Fit/Function		Out of	Sequence						



DESIGN	DRAWN BY	DART AEROSP HAWKESBURY, ONTARI	
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#	-#	D3121	SHEET 4 OF 10
DATE		TITLE	SCALE
07.11.07		BRACKET ASSEMBLY	1:1



D3121-11 BRACKET

1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B) MIN ULTIMATE TENSILE = 150 ksi

MIN YIELD TENSILE = 100 ksi

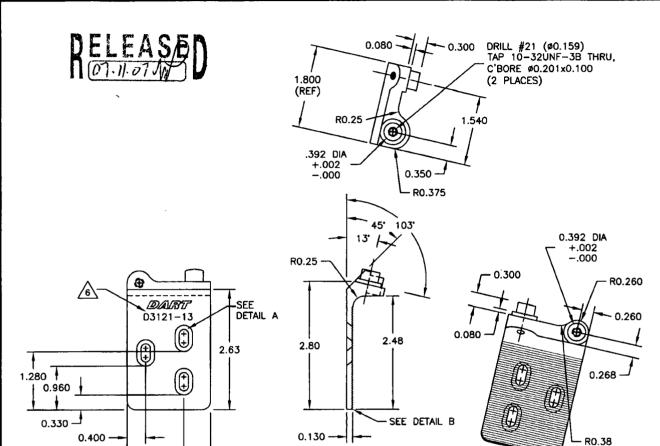
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 5) ENGRAVE DART P/N & LOGO AS SHOWN
- 6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

DQA:	Date:									T A A C					
QA Closed:			Date:			WORK ORDER NON	-CC	ONFO	RMANCE / UP		ork Order up	odato only	AEROSPACE		
QA Closed.			Date.				"			VV	ork Order up	date only			
Work Orde	er:					DISPOSITION				AGAINST DEPARTMENT/PROCESS					
	-					Rework	1	Skid-tube Crosstub]	Water Jet	Engineering		
Part N	lo.					Scrap		Machining Small F			Pro	d. Eng. Coor.	Quality		
	_					Use-as-is		Thermoforming Finishi			Rec/Stor	e/Packaging	Other		
NCR No.				Suspected Unapproved			Large Fab	Composite]	Supplier					
Root	Root De			Desci	ription of work order update		Initial	Actio	on	Sign &					
Cause		Date	Step	Qty		or non-conformance	1	Chief Eng Description			Date	Verification	QC Inspector		
Design															
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Equip/Tooling					•										
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Operator															
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Supplier					}										
Training															
Transport															
Unapproved					<u> </u>										
						·	FA	ULT CA	TEGORY						
Landi	ng G	Gear				General		,		_	-		· 		
		Bending				Bend		-i	Program		Outside Dim	 	Pressure/Forced		
	_	Centre No	ot Concer	ntric	<u> </u>	BOM/Route		Grain			Over/Under	tolerance	Set-up		
	\vdash	Cracks				Broken/Damage/Defect		Hardwa	are	<u> </u>	Part Incorred	 	Temperature/Cure		
	Ш	Crimp/Kir	ık/Ripple	/Wave	_	Burrs		Inspect	ion Incomplete/Und	qualified	Part Lost/Mi	· · · · · · · · · · · · · · · · · · ·	Weld		
	Cuffs			Contamination	$oxed{oxed}$	-i	tions Incomplete/Ur	nclear	Part Moved		Wrong Stock Pulled				
	Crushing			Countersink		-	gned/off center		Positioned V		- 1				
	Heat Treat			Cut Too Short		Mislabe			Power Loss/	Surge	Other				
	Inspection Strip in Tube				Drawing	<u></u>	Misrea								
	-	Marks/Ch				Drill Holes		Off-set							
	Turning Sequence					Finish	L	Out of	Calibration						
	1	Wave/Twist in Tube				Fit/Function	1	Out of	Saguence						

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DESIGN	DRAWN BY	DART AEROSP HAWKESBURY, ONTARI	
CHECKED	APPROVED	DRAWING NO.	REV. E
#	1	D3121	SHEET 5 OF 10
DATE		TITLE	SCALE
07.11.07		BRACKET ASSEMBLY	1:2



D3121-13 BRACKET (SHOWN) D3121-14 BRACKET (OPPOSITE)

1.220 - 1.800

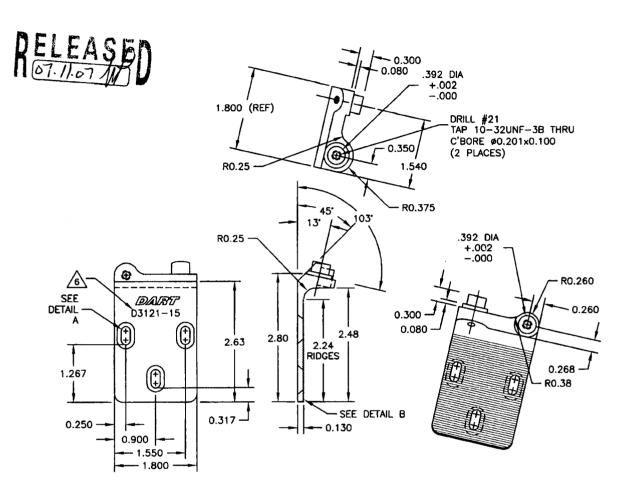
- 1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B) MIN ULTIMATE TENSILE STRENGTH = 150 ksi MIN YIELD TENSILE STRENGTH = 100 ksi
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 5) ENGRAVE DART P/N & LOGO AS SHOWN
- 6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

DQA:			Date:										
						WORK ORDER NON-	·CC	ONFO	RMANCE / UPDAT				AEROSPACE
QA Closed:			Date:							Wo	ork Order up	date only	
Work Orde	er:				i	DISPOSITION			AC	GAINST DE	PARTMENT	PROCESS	
						Rework			Skid-tube Cro	osstube		Water Jet	Engineering
Part f	No.					Scrap		Machining Small Fab			Proc	d. Eng. Coor.	Quality
					Use-as-is			~ }	inishing		e/Packaging	Other	
NCR 1	NCR No.				Suspected Unapproved			~ —	nposite	,	Supplier		
Root		De		Desc	ription of work order update	ŀ	nitial	Action		Sign &			
Cause		Date	Step	Qty		or non-conformance	Ch	ief Eng	Description	1	Date	Verification	QC Inspector
Design	Щ												
Doc/Data	Ш												
Equip/Tooling	Ц												
Handling/Pre	Ш												
Material	Ш					•							į
Operator	Ш												
Offset/Setup	Ш												
Process	Ш												
Supplier	Ш												
Training	Ц												
Transport	Ш												
Unapproved									<u> </u>				
		<u></u>		·			FAL	ULT CA	TEGORY				
Landi					_	General	_	1	_	<u></u>	Ī	_	- 7 .
	-	Bending			-	Bend	<u> </u>	1	Program	<u> </u>	Outside Dim		Pressure/Forced
	\vdash	Centre No	ot Concer	ntric	-	BOM/Route		Grain			Over/Under	}	Set-up
	1	Cracks	1.40: 1	<i>(</i>)	-	Broken/Damage/Defect		Hardwa			Part Incorred	├	Temperature/Cure
	$\overline{}$	Crimp/Kir	ik/Ripple,	/Wave	-	Burrs	<u> </u>	1	ion Incomplete/Unqualifi	-	Part Lost/Mi	· ·	Weld
	\vdash	Cuffs				Countamination	<u> </u>	-1	tions Incomplete/Unclear		Part Moved		Wrong Stock Pulled
	Crushing		\vdash	Countersink	-	•	gned/off center		Positioned W	_	7045		
	Heat Treat			Tubo	-	Cut Too Short		Mislabe		<u> </u>	Power Loss/	ourge	Other
	Inspection Strip in Tube Marks/Chatter			edui	-	Drawing Drill Holos		Misrea					
	—				<u> </u>	Drill Holes Finish	\vdash	Off-set					
	Turning Sequence				\vdash	Fit/Function	_	1	Calibration				
		Wave/Twist in Tube				FIGRUNCTION		Out of !	Sequence				

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DESIGN	F DRAWN BY		ROSPACE LTD y, ontario, canada
CHECKED	APPROVED	DRAWING NO.	REV. E
4		D3121	SHEET 6 OF 10
DATE		TITLE	SCALE
07.11.0	7	BRACKET ASSEMBL	Y 1:2



D3121-15 BRACKET (SHOWN) D3121-16 BRACKET (OPPOSITE)

1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)

MIN ULTIMATE TENSILE = 150 ksi MIN YIELD TENSILE = 100 ksi

- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 5) ENGRAVE DART P/N AND LOGO AS SHOWN
- 6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

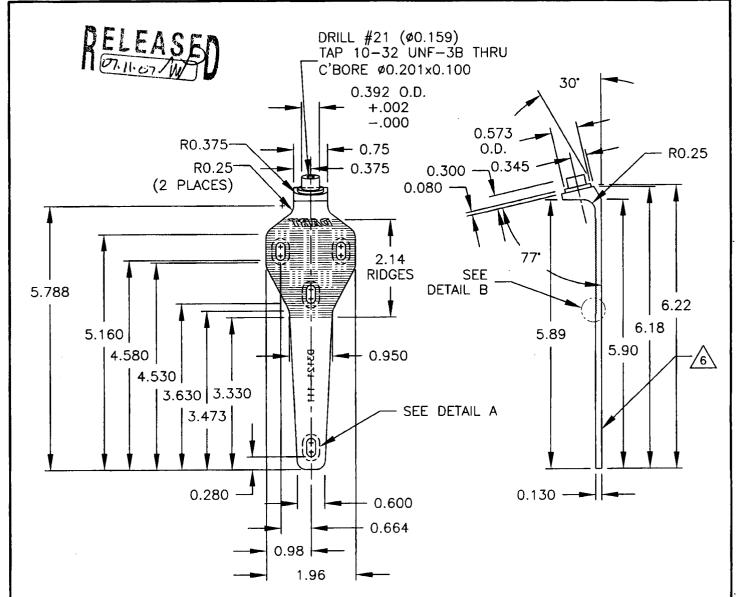
Copyright @ 2002 by DART AEROSPACE LTD

DQA:			Date:										
						WORK ORDER NON-	-CC	ONFO					AEROSPACE
QA Closed:	-,-		Date:							W	ork Order up	date only	<u> </u>
Work Orde	er:					DISPOSITION			AGAINST	DE	PARTMENT	PROCESS	
	•			•		Rework		Skid-tube Crosstu]	Water Jet	Engineering
Part N	Part No.				Scrap					Pro	d. Eng. Coor.	Quality	
				Use-as-is			moforming Finishing		-{	e/Packaging	Other		
NCR No.				Suspected Unapproved			Large Fab Composite			Supplier			
Root	oot Des			Desc	ription of work order update		nitial	Action		Sign &			
Cause		Date Step Qty		0000	or non-conformance		ief Eng	1		Date	Verification	QC Inspector	
Design				~ .,		0.1.0	-		Description		Dute	Vermedelon	Qe mspector
Doc/Data													
Equip/Tooling		:											
Handling/Pre													
Material													
Operator													
Offset/Setup													
Process													
Supplier													
Training													
Transport					į.								
Unapproved													
							FAI	ULT CA	TEGORY				
Landi	ng (Gear				General					-		
		Bending				Bend		Folio/F	Program	_	Outside Dim	ensions	Pressure/Forced
		Centre No	ot Concer	ntric	ļ	BOM/Route	_	Grain			Over/Under	tolerance	Set-up
:	_	Cracks				Broken/Damage/Defect	<u> </u>	Hardwa			Part Incorred	ct _	Temperature/Cure
	\vdash	Crimp/Kir	nk/Ripple	/Wave		Burrs		Inspect	ion Incomplete/Unqualified	L	Part Lost/Mi	· -	Weld
	-	Cuffs			<u> </u>	Contamination	_	4	tions Incomplete/Unclear	L	Part Moved	<u>-</u>	Wrong Stock Pulled
	\vdash	Crushing				Countersink	$\overline{}$	1	gned/off center	$oxed{}$	Positioned V		¬
	Heat Treat			Cut Too Short		Mislab		L	Power Loss/	Surge	Other		
	Inspection Strip in Tube			Tube	<u> </u>	Drawing	⊢	Misrea					
	<u> </u>	Marks/Ch				Drill Holes	⊢	Off-set				· · · · · · · · · · · · · · · · · · ·	
	<u> </u>	Turning S			<u> </u>	Finish	_	1	Calibration				
		Wave/Twist in Tube				Fit/Function		Out of	Sequence				

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4		D3121	SHEET 7 OF 10
DATE		TITLE	SCALE
07.11.07		BRACKET ASSEMBLY	1:2



D3121-111 BRACKET

- 1) REPLACES PREMIER P/N B32-23001-11
- 2) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)

MIN ULTIMATE TENSILE = 150 ksi

MIN YIELD TENSILE = 100 ksi

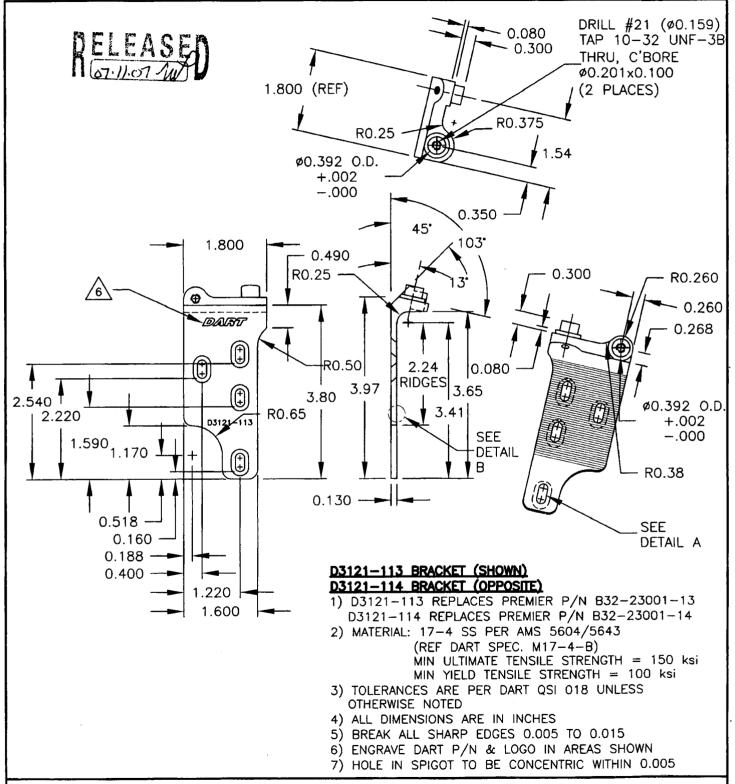
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHEWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 6) ENGRAVE DART P/N & LOGO IN AREAS SHOWN
- 7) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

DQA:			Date:										
						WORK ORDER NON-	-CC	ONFO	RMANCE / UI	PDATE			A E R O S P A C E
QA Closed:			Date:							V	ork Order up	date only	
Work Orde	er:					DISPOSITION				AGAINST D	EPARTMENT	/PROCESS	
	-				_	Rework			Skid-tube	Crosstube		Water Jet	Engineering
Part N	lo.					Scrap		Machining Small Fa			Pro	d. Eng. Coor.	Quality
	_					Use-as-is		Thermoforming Finishir			Rec/Stor	e/Packaging	Other
NCR No.				Suspected Unapproved		! !	Large Fab	Composite		Supplier			
Root					Desci	ription of work order update	Ī	nitial	Act	ion	Sign &		,
Cause		Date	Step	Qty		or non-conformance	Ch	ief Eng	Descr	ription	Date	Verification	QC Inspector
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Doc/Data													
Equip/Tooling													
Handling/Pre													
Material													
Operator								•					
Offset/Setup													
Process			 										
Supplier													
Training	Щ		1				i						
Transport	Ш		Ì										
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Landi						General	_	1	_	_	–		¬
	\vdash	Bending	_		<u> </u>	Bend	<u> </u>	•	Program	-	Outside Dim	⊢	Pressure/Forced
	\vdash	Centre No	ot Concer	ntric		BOM/Route	<u> </u>	Grain		-	Over/Under		Set-up
	\vdash	Cracks		4	<u> </u>	Broken/Damage/Defect	_	Hardwa			Part Incorred	 	Temperature/Cure
	-	Crimp/Kir	ik/Ripple	/Wave	-	Burrs	<u> </u>	1	ion Incomplete/Ur	· -	Part Lost/Mi	- h	Weld
		Cuffs			<u> </u>	Contamination	<u> </u>	1	tions Incomplete/U	Jnclear	Part Moved	_	Wrong Stock Pulled
	-	Crushing			<u> </u>	Countersink	\vdash	1 1	gned/off center	 -	Positioned V		
	Heat Treat			T b =	-	Cut Too Short	<u> </u>	Mislabe		L	Power Loss/	Surge [Other
	Inspection Strip in Tube			iupe	-	Drawing Drill Holos	\vdash	Misrea				- ,	
	⊢⊣	Marks/Ch			-	Drill Holes	\vdash	Off-set					,
	-	Turning S			-	Finish	<u> </u>	4	Calibration				
	L1	Wave/Twist in Tube				Fit/Function	<u>L</u>	Out of	Sequence				

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4	-#	D3121	SHEET 8 OF 10
DATE		TITLE	SCALE
07.11.07		BRACKET ASSEMBLY	1:2

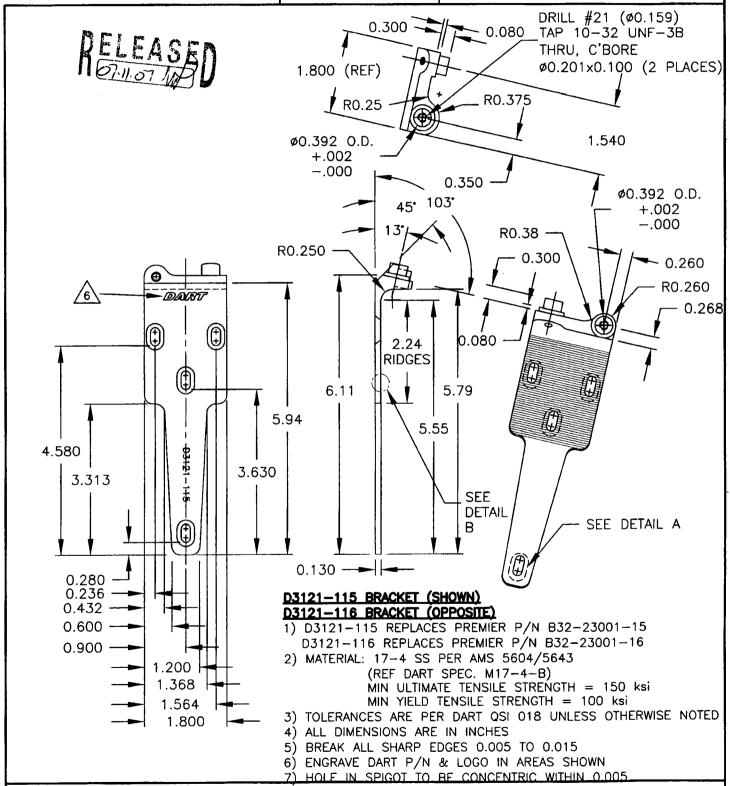


DQA:			Date:											•	TQ AC
			_			WORK ORDER NON-	-CC	ONFO	RMANCE / U				-		AEROSPACE
QA Closed:		=	Date:						<u> </u>	<u>. :</u>	W	ork Order up	odate only		
Work Orde	er:					DISPOSITION				AGAINST	DE	PARTMENT	/PROCESS		
	-					Rework]		Skid-tube	Crosstube		Water Jet			Engineering
Part N	١o.					Scrap			Machining	Small Fab		Pro	d. Eng. Coor.		Quality
	-					Use-as-is	1 1	Thermoforming Finishin				1	re/Packaging		Other
NCR N	۷o.					Suspected Unapproved]		Large Fab	Composite	_]	Supplier		
Post				D					<u> </u>		l c: 0			I	
Root		D-4-	Chara	04	Desci	ription of work order update	1	Initial	1	ction		Sign &	., .,		0.51
Cause		Date	Step	Qty		or non-conformance	Ch	ief Eng	Desc	ription		Date	Verification	<u> </u>	QC Inspector
Design	-											1			
Doc/Data	H						1						:		
Equip/Tooling															
Handling/Pre Material	\vdash														
Operator	\vdash	-													
Offset/Setup	H	4													
Process	\vdash														
Supplier	\vdash														
Training															,
Transport	П														
Unapproved	П														
	1			<u> </u>			FAI	ULT CA	regory			1	I		<u> </u>
Landi	ng G	ear				General			W						
		Bending				Bend		Folio/F	Program			Outside Dim	ensions		Pressure/Forced
		Centre No	ot Concer	ntric		BOM/Route		Grain				Over/Under	tolerance		Set-up
		Cracks				Broken/Damage/Defect		Hardwa	ire			Part Incorre	ct		Temperature/Cure
	Ш	Crimp/Kir	nk/Ripple	/Wave		Burrs		Inspect	ion Incomplete/U	Inqualified		Part Lost/Mi	ssing		Weld
		Cuffs				Contamination		Instruct	tions Incomplete/	/Unclear		Part Moved			Wrong Stock Pulled
	Crushing			Countersink	<u></u>	1 7	ned/off center			Positioned V	Vrong		,		
	Heat Treat			Cut Too Short	_	Mislabe			L	Power Loss/	Surge		Other		
		Inspection	•	Tube		Drawing	_	Misread							
	Н	Marks/Ch				Drill Holes	_	Off-set							
	Turning Sequence				Finish	<u></u>	4	Calibration							
	Wave/Twist in Tube				- 1	Fit/Function	1	I Out of	Saguence						

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DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA							
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#	-	D3121	SHEET 9 OF 10						
DATE		TITLE	SCALE						
07.11.07		BRACKET ASSEMBLY	1:2						



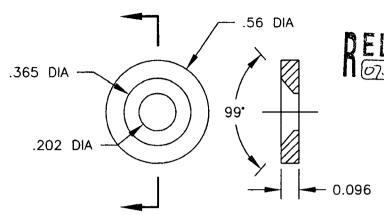
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DQA:		Date:													
QA Closed: Date:				WORK ORDER NON-CONFORMANCE / UPDATE Work Order update only Work Order update only											
Work Order:						DISPOSITION		AGAINST DEPARTMENT/PROCESS							
Part No.						. — .		Skid-tube Crosstube Machining Small Fab Thermoforming Finishing		Water Jet Prod. Eng. Coor. Rec/Store/Packaging		Engineering Quality Other			
NCR N	No		<u></u>			Suspected Unapproved			Large Fab Composite			Supplier			
Root Date Step Qty			Desc	cription of work order update or non-conformance		nitial iief Eng	Action Description		Sign & Verification		QC Inspector				
Design Doc/Data Equip/Tooling Handling/Pre Material Operator Offset/Setup Process Supplier Training Transport		Date	Step	diy		or non comormance		ile i Liig	Desc	πριιοιι	Date	Vermeuton	QC IIISPECTOI		
Unapproved	Ш				<u> </u>		FAI	ULT CA	TEGORY	-					
Landi	ng G	Gear				General	FA	ULT CA	IEGORY						
•		Bending Centre Not Concentric Cracks Crimp/Kink/Ripple/Wave Cuffs Crushing Heat Treat Inspection Strip in Tube Marks/Chatter Turning Sequence				Bend BOM/Route Broken/Damage/Defect Burrs Contamination Countersink Cut Too Short Drawing Drill Holes Finish		Folio/Program Grain Hardware Inspection Incomplete/Unqualified Instructions Incomplete/Unclear Misaligned/off center Mislabeled Misread Off-set Out of Calibration			Outside Di Over/Undo Part Incorr Part Lost/I Part Move Positioned Power Los	Pressure/Forced Set-up Temperature/Cure Weld Wrong Stock Pulled Other			
	Wave/Twist in Tube					Fit/Function		Out of	Sequence						

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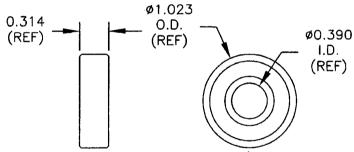


DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA								
CHECKED	APPROVED	DRAWING NO.	REV.	. E						
#	 	D3121	SHEET 10 OF	10						
DATE		TITLE	SCA	YLE						
07.11.07		BRACKET A	ASSEMBLY	1:1						



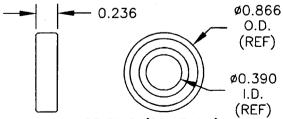
D3121-17 WASHER (SCALE 2:1)

- 1) REPLACES PREMIER P/N B32-23001-17
- 2) MATERIAL: AISI 303 SS ROUND BAR, ANNEALED (REF DART SPEC. M303R)
- 3) TOLERANCÈS ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015



D3121-19 BEARING (SCALE 1:1)

- 1) POSSIBLE SUPPLIER: KING BEARING P/N 6000-2ZJ/EM FAFNIR P/N 9100KDD
- 2) ALL DIMENSIONS ARE IN INCHES



D3121-23 BEARING (SCALE_1:1)

- 1) POSSIBLE SUPPLIER: SKF P/N 61900-2Z OR KML P/N 6900-ZZ
- 2) ALL DIMENSIONS ARE IN INCHES

D3121-21 BOLT (SCALE 1:1)

- 1) MATERIAL: AISI 303 SS HEX, ANNEALED (REF DART SPEC. M303H0.500)
- 2) FINISH: NONE

0.375 -

3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

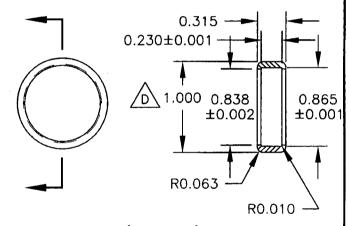
TAP 10-32

UNF-3A

0.050 TO 0.060

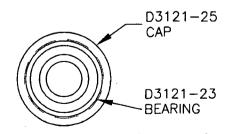
0.080

- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015



D3121-25 CAP (SCALE 1:1)

- 1) MATERIAL: DELRIN ROD, Ø1.25
 (REF DART SPEC. M-DELRIN-R1.250)
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES



D3121-241 BEARING ASSEBLY (SCALE 1:1)

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DQA:		Date:			DART								
QA Closed: Date:				WORK ORDER NON-CONFORMANCE / UPDATE Work Order update only Work Order update only									
Work Order					DISPOSITION		AGAINST DEPARTMENT/PROCESS						
Work Order:					Rework Scrap Use-as-is The			Skid-tube Crosstube Machining Small Fab Thermoforming Finishing		Water Jet Prod. Eng. Coor. Rec/Store/Packaging			Engineering Quality Other
NCR N	lo				Suspected Unapproved			Large Fab	Composite]	Supplier		
Root Descri				cription of work order update		Initial Action			Sign &				
Cause	Date	Step	Qty		or non-conformance	Ch	nief Eng Description		cription	Date Verificat		on QC Inspector	
Design													
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Process						1							
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Landir	ng Gear			,	General		-			_	-		
ļ	Bending				Bend		Folio/Program			Outside Dimensions		P	Pressure/Forced
1	Centre Not Concentric				BOM/Route		Grain			Over/Under tolerance		s	Set-up
ļ	Cracks				Broken/Damage/Defect		Hardware			Part Incorrect			emperature/Cure
	Crimp/Kink/Ripple/Wave				Burrs		Inspection Incomplete/Unqualified			Part Lost/Missing		V	Veld
	Cuffs				Contamination			tions Incomplete	e/Unclear	Part Moved		\v	Wrong Stock Pulled
	Crushing			Countersink	Ŀ	Misali	Misaligned/off center		Positioned Wrong				
	Heat Treat			Cut Too Short	Misla		Aislabeled		Power Loss/Surge			Other	
	Inspection Strip in Tube		Drawing		Misrea	d							
	Marks/Chatter		Drill Holes		Off-set								
	Turnin	g Sequence	<u> </u>		Finish		Out of	Calibration					
[Wave/Twist in Tube				Fit/Function		Out of	Seguence					

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